

Claims:

1. (Currently amended) Solid, freely flowing, fertilizer Fertilizer formulations comprising:
  - I) a monobasic earth-alkali metal phosphate, chosen from among Calcium Phosphate (MCP) Ca(H<sub>2</sub>PO<sub>4</sub>)<sub>2</sub>, Magnesium Phosphate (MMgP) Mg(H<sub>2</sub>PO<sub>4</sub>)<sub>2</sub>, or mixtures thereof;
  - II) an alkali metal phosphate (MALP) AH<sub>2</sub>PO<sub>4</sub>; and
  - III) phosphoric acid Phosphoric Acid (PA) H<sub>3</sub>PO<sub>4</sub>,  
wherein said monobasic earth-alkali metal phosphate is selected from the group consisting of calcium phosphate Ca(H<sub>2</sub>PO<sub>4</sub>)<sub>2</sub>, magnesium phosphate Mg(H<sub>2</sub>PO<sub>4</sub>)<sub>2</sub>, or mixtures thereof;  
wherein A is selected from the group consisting of Na, K and NH<sub>4</sub>; and  
wherein during the processing of said formulations, said MALP reacts with said PA to form an alkali metal double salt (AH<sub>5</sub>(PO<sub>4</sub>)<sub>2</sub>).
2. (Currently amended) Fertilizer formulations according to claim 1, wherein said the alkali metal phosphate MALP is monopotassium phosphate Monopotassium Phosphate (MKP) KH<sub>2</sub>PO<sub>4</sub>.
3. (Currently amended) Fertilizer formulations according to claim 1 or 2, wherein a) said the alkali metal phosphate MALP is in a molar ratio to PA that is at least the ratio corresponding to the double salt AH<sub>5</sub>(PO<sub>4</sub>)<sub>2</sub>.
4. (Currently amended) Fertilizer formulations according to claim 3 [[4]], wherein the ratio A<sub>2</sub>O:P<sub>2</sub>O<sub>5</sub>, wherein the P<sub>2</sub>O<sub>5</sub> does not comprise that included in phosphate moieties of the earth-alkali metal phosphates, is from about 0.50 to about 0.80.
5. (Currently amended) Fertilizer formulations according to claim 3 [[4]], wherein the molar ratio CaO and/or MgO to P<sub>2</sub>O<sub>5</sub>T, wherein P<sub>2</sub>O<sub>5</sub>T comprises the total amount included in the formulations, is from 1:4.5 to 1:15.1 if the earth-alkali metal is calcium, and from 1:3.3 to 1:7.5 [[5]] if the earth-alkali metal is magnesium.

6. (Currently amended) Fertilizer formulations according to claim 5, wherein the molar ratio CaO and/or MgO to P<sub>2</sub>O<sub>5</sub>T, wherein the P<sub>2</sub>O<sub>5</sub>T comprises the total amount included in the formulations, is about 1:4.8 if the earth-alkali metal is calcium, and about 1:3.8 [[,]] if the earth-alkali metal is magnesium.

7. (Currently amended) Solid, freely flowing, fertilizer Fertilizer compositions comprising:

a monobasic earth-alkali metal phosphate, ~~chosen from among Calcium-Phosphate (MCP) Ca(H<sub>2</sub>PO<sub>4</sub>)<sub>2</sub>, Magnesium Phosphate (MMgP) Mg(H<sub>2</sub>PO<sub>4</sub>)<sub>2</sub>, or mixtures thereof,~~ and an alkali metal double salt AH<sub>5</sub>(PO<sub>4</sub>)<sub>2</sub>, wherein A is selected from the group consisting of [[=]] K, Na, NH<sub>4</sub>; and wherein said monobasic earth-alkali metal phosphate is calcium phosphate Ca(H<sub>2</sub>PO<sub>4</sub>)<sub>2</sub>, magnesium phosphate Mg(H<sub>2</sub>PO<sub>4</sub>)<sub>2</sub>, or mixtures thereof.

8. (Previously presented) Fertilizer compositions according to claim 7, further comprising an alkali metal phosphate (MALP) AH<sub>2</sub>PO<sub>4</sub>.

9. (Previously presented) Fertilizer compositions according to claim 7, wherein the alkali metal double salt is KH<sub>5</sub>(PO<sub>4</sub>)<sub>2</sub>.

10. (Currently amended) Fertilizer compositions according to claim 8, wherein said the alkali metal phosphate MALP is monopotassium phosphate Monopotassium Phosphate (MKP) KH<sub>2</sub>PO<sub>4</sub>.

11. (Currently amended) Fertilizer compositions according to claim 7, 8 or 9, wherein the molar ratio of CaO and/or MgO to P<sub>2</sub>O<sub>5</sub>T, wherein the P<sub>2</sub>O<sub>5</sub>T comprises the total amount included in the compositions, is from 1:4.5 to 1:15.1 if the earth-alkali metal is calcium, and from 1:3.3 to 1:7.5 [[,]] if the earth-alkali metal is magnesium.

12. (Currently amended) Fertilizer compositions according to claim 11, wherein the molar ratio CaO and/or MgO to P<sub>2</sub>O<sub>5</sub>T, wherein the P<sub>2</sub>O<sub>5</sub>Tcomprises the total amount

included in the compositions, is about 1:4.8 if the earth-alkali metal is calcium, and is about 1:3.8 [[,]] if the earth-alkali metal is magnesium.

13. (Previously presented) Fertilizer compositions according to claim 11, wherein the molar ratio of MALP to  $\text{AH}_5(\text{PO}_4)_2$  is from zero to 60%.

14. (Currently amended) Process for the preparation of the compositions of claim 7 the invention, which comprises the steps of preparing a formulation according to any one of claims 1 to 6; introducing said formulation into a drying oven of a material resistant to the components of said formulation (particularly to the PA); and mechanically homogenizing said formulation while concurrently drying it by heating under a vacuum.